

Docket No. 238546US8CIP

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Shunichi MATSUSHITA, et al.

SERIAL NO: 10/645,528

GAU: 3663

FILED: August 22, 2003

EXAMINER: Unassigned

FOR: OPTICAL SIGNAL AMPLIFIER



INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references were submitted by Applicants and cited by the Examiner in parent application Serial No. 09/654,974, filed on September 5, 2000, as were copies of the statement of relevancy or any readily available English translations of pertinent portions of any non-English language references.

- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.

- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

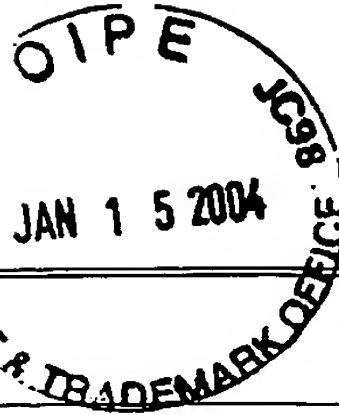
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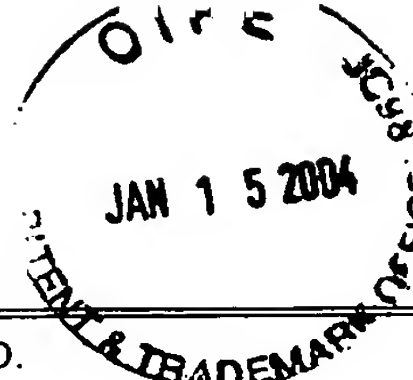
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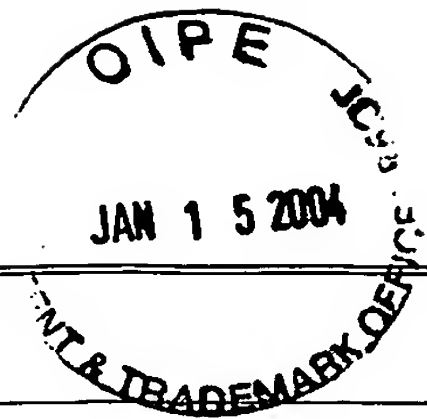
Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 238546US8CIP		SERIAL NO. 10/645,528	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Shunichi MATSUSHITA, et al.			
				FILING DATE August 22, 2003		GROUP 3663	
U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	4,616,898	10-14-86	Hicks, Jr.			
	AB	4,699,452	10-13-87	Mollenauer et al			
	AC	4,805,977	2-21-89	Tamura et al			
	AD	4,881,790	11-21-89	Mollenauer			
	AE	5,883,736	3-16-99	Oshima et al			
	AF	5,887,093	3-23-99	Hansen et al			
	AG	6,115,174	9-5-00	Grubb et al			
	AH	6,292,288	9-18-01	Akasaka et al			
	AI	6,344,923	2-5-02	Blondel et al			
	AJ	US 2001/0036004	11/1/01	Ackerman et al			
	AK	6,147,794	11-2000	Stentz			
	AL	6,356,383	3-2003	Cornwell et al			
	AM	5,218,652	6-8-93	Lutz			
	AN	5,563,732	10-8-96	Erdogan et al			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO		
	AO	EP 1 018 666 A1	7/2000	EUROPE	X		
	AP	10-73852	3/17/98	JAPAN (with one page English Abstract)	X		
	AQ	02-012986	1/17/90	JAPAN (with one page English Abstract)	X		
	AR	WO 98/42088	9/24/98	WIPO	X		
	AS	0 615 356	09-1994	EU	x		
	AT	0 734 105 a2	9-25-96	EP			
	AU	0 877 265 a1	11-11-98	EP			
	AV						
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	AW	Fibre Raman amplifier for 1520 nm band WDM transmission, J. Kani et al., <u>Electronics Letters</u> , 3 rd September 1998, Vo. 34, No. 18, pp. 1745-1747					
	AX	Broadband Silica Fiber Raman Amplifiers at 1.3 μ m and 1.5 μ m, S.V. Chernikov et al, <u>ECOC '98</u> , 20-24 September 1998, Madrid, Spain, pp. 49-50					
	AY	Fibre Raman amplifiers for broadband operation at 1.3 μ m, D.V. Gapontsev et al, <u>Optics Communication</u> , 1 August 1999, 166 (1999), pp. 85-88					
	AZ	A 92nm Bandwidth Raman Amplifier, Karsten Rottwitt et al, <u>OFC98</u> , pp. PD6-1-PD6-4				<input checked="" type="checkbox"/> Additional References sheet(s) attached	
Examiner					Date Considered		
*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.							



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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	BA	Single-Channel to Multi-Channel Upgrade of 10-Gb/s Transmission Systems by Raman Amplification, P.B. Hansen et al., <u>22nd European Conference on Optical Communication – ECOC '96, Oslo</u> , pp. 2.147-2.150.					
	BC	1480nm Pumping Laser with Fiber Bragg Grating, Akira Mugino et al., Technical Report of IEICE, <u>The Institute of Electronics, Information and Communication Engineers</u> , pp. 37-42, 1998					
	BD	Pump Interactions in a 100-mn Bandwidth Raman Amplifier, Howard Kidof et al, <u>IEEE Photonics Technology Letters</u> , Vol. 11, No. 5, May 1999					
	BE	Properties of Fiber Raman Amplifiers and Their Applicability to Digital Optical Communication Systems, Yasuhiro Aoki, <u>Journal of Lightwave Technology</u> , Vol. 6, No. 7, July 1988					
	BF	Amplified Spontaneous Raman Scattering in Fiber Raman Amplifiers, Kiyofumi Mochizuki et al., <u>Journal of Lightwave Technology</u> , No. LT-4, No. 9, pp. 1328-1333, September 1986					
	BG	Optical Fiber Transmission Systems Using Simulated Raman Scattering, Theory, Kiyofumi Mochizuki, <u>Journal of Lightwave Technology</u> , Vol. LT-3, 3, June 1985, pp. 688-694					
	GH	Amplified Spontaneous Raman Scattering and Gain in Fiber Raman Amplifiers, Mark L. Dakss et al., <u>Journal of Lightwave Technology</u> , Vol. LT-3, No. 4, August 1985, pp. 806-813					
	BI	Polarization Effects in Fiber Raman and Brillouin Lasers, Rogers H. Stolen, <u>IEEE Journal of Quantum Electronics</u> , Vol., QE-15, No. 10, October 1979, pp. 1157-1160					
	BJ	Spontaneous and Stimulated Raman Scattering in Long Low Loss Fibers, John Auyeung et al, <u>IEEE Journal of Quantum Electronics</u> , Vol. QE-14, No. 5, May 1978, pp. 347-352					
	BK	Degree of polarization in jointed fibers: the Lyot depolarizer, Kiyofumi Mochizuki, <u>Applied Optics</u> , Vol. 23, No. 19, 1 October 1984, pp. 3284-3288					
	BL	Performance of Lyot Depolarizers with Birefringent Single-Mode Fibers, Konrad Bohm et al, <u>Journal of Lightwave Technology</u> , Vo., LT-1, No. 1, March 1983, pp. 71-74					
	BM	A, Monochromatic Depolarizer, Bruce H. Billings, <u>Journal of the Optical Society of America</u> , Vol. 41, No. 12, December, 1951, pp. 966-975					
	BN	Broadband Raman Amplifier for WDM Transmission, Yoshihiro Emori et al, <u>Fifth Optoelectronics and Communications Conference (OECC 2000) Technical Digest</u> , 10-14 July 2000, pp. 26-27					
	BO	Broadband Raman amplifiers design and practice, Shu Namiki et al, <u>Optical Society of America Conference, Technical Digest</u> , 9-12 July 2000, pp. 7-9					
	BO	Cost-effective depolarized diode pump unit designed for C-band flat-gain Raman amplifier to control EDFA gain profile, Yoshihiro Emori et al, <u>Optical Society of America Conference</u> , March 5-10, 2000, pp. 106-108					
	BQ	Lewis et al, <u>Electronics Letters</u> , Vol. 35, No. 20, September 30, 1999, pp. 1761-1762 (one page abstract only).					
	BR	Yoshihiro Emori et al, State of the art in diode pumped Raman amplifiers, OAA 2001, 3 pages					
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Form PTO 1449 (Modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY DOCKET NO. 238546US86		SERIAL NO. 10/645,528	
LIST OF REFERENCES CITED BY APPLICANT				APPLICANT Shunichi MATSUSHITA, et al.			
				FILING DATE August 22, 2003		GROUP	
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	BS	Anders Bemtson et al, Polarisation dependence and gain tilt of Raman amplifiers for WDM systems, <u>Optical Society of America</u> , 2000, 3 pages					
	BT	Jianping Zhang et al., Dependence of Raman Polarization Dependent Gain on Pump Degree of Polarization at High Gain Levels, <u>Optical Society of America</u> , OCC 2000, 3 pages					
	BU	N. Edagawa et al, SIMULTANEOUS AMPLIFICATION OF WAVELENGTH-DIVISION-MULTIPLEXED SIGNALS BY A HIGHLY EFFICIENT FIBRE RAMAN AMPLIFIER PUMPED BY HIGH-POWER SEMICONDUCTOR LASERS, <u>Electronics Letters</u> , February 26, 1987, Vol. 23, No. 5, pps. 196-197, (with one page abstract)					
	BV	H. Masuda et al., Ultra-wideband hybrid amplifier comprising distributed Raman amplifier and erbium-doped fibre amplifier, <u>Electronics Letters</u> , June 25, 1998, Vol. 34, No. 13, pps. 1342-1344					
	BW	Hiroji Masuda et al, 75 nm 3-dB Gain-band Optical Amplification with Erbium-doped Fluoride Fibre Amplifiers and Distributed Raman Amplifiers in 9 x 25-Gb/s WDM Transmission Experiment, <u>ECOC 97</u> , Conference Publication No. 448, September 22-25, 1997, pp. 73-76 plus one page Abstract					
	BX	K. Aida et al., Design and performance of a long-span IM/DD optical transmission system using remotely pumped optical amplifiers, <u>IEEE Proceedings</u> , Vol. 137, Pt.J, No. 4, August 1990, pp. 225-229, plus one page Abstract					
	BY	Govind P. Agrawal, Nonlinear Fiber Optics, Second Edition, <u>Academic Press</u> , 1995, pp. 328-334					
	BZ	K. I. Suzuki et al, Bidirectional 10-channel 2.5 Gbit/s WDM transmission over 250 km using 76 nm (1531-1607 nm) gain-band bidirectional erbium-doped fiber amplifiers, <u>Electronics letters</u> , August 15, 1997					
	CA	Ryuichi Sugizaki et al, Polarization insensitive broadband transparent DCF module with faraday rotator mirror, Raman-amplified by single polarization diode-laser pumping, <u>Communicat, OFC/OOC '99</u> , Technical Digest, Vol. 1, February 21-26, 1999, pp. 279-281 (with on page abstract)					
	CB	Pending U.S. Patent Application No. 09/886,211 filed June 22, 2001.					
	CC	Pending U.S. Patent Application No. 09/886,212, filed June 22, 2001.					
	CD	Pending U.S. Patent Application No. 09/944,601 filed September 4, 2001.					
	CE	Wang, L.J. et al, "Analysis of Polarization-Dependent Gain in Fiber Amplifiers", <u>IEEE J of Quantum Elect.</u> , Vol. 34, No. 3, March 1998, pp. 413-418					
	CF	Takesue, H. et al, "Stabilization of Pulsed Lightwave Circulating Around an Amplified Fiber-Optic Ring Incorporating a LOYT Depolarizer", <u>IEEE Photonic Tech. Lett.</u> , December, 1998, pp. 1748-1750					
	CG	Bruyere, F. et al. "Demonstration of an Optimal Polarization Scrambler for Long-Haul Optical Amplifier Systems", <u>IEEE Photonics Tech Lett.</u> (this reference was provided in a PTO Form 892 from the Examiner, no date was provided)					
	CH	Bennett, J.M. "Physical Optics", <u>The Handbook of Optics</u> , McGraw-Hill, 1995, pp. 5.22-5.25					
	CI	N. Edagawa et al, Amplification Characteristics of Fiber Raman Amplifiers, <u>Institute of Electronics, Information and Communication Engineers</u> , Vol. 88, No. 87, 1998 (OQE-33) pp 61-68 (including one page English translation of the Summary)					
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	CJ	5,481,391	1-96	Giles			
	CK	5,729,372	3-98	Terahara			
	CL	5,539,566	7-96	Terahara			
	CM	5,309,535	5-94	Bergano			
	CN	5,491,576	2-96	Bergano			
	CO	4,900,917	2-90	Dixon			
	CP	5,111,322	5-92	Bergano			
	CQ	4,941,738	7-90	Olsson			
	CR	5,345,331	9-94	Bergano			
	CS	5,600,482	2-97	Watanabe			
	CT	5,692,082	11-25-97	Fukushima			
	CU	6,342,965	11/29/02	Kinoshita			
	CV	6,151,160	11-2000	Ma et al			
	CW	5,793,512	8-98	Ryu			
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO		
	CX						
	CY						
	CZ						
	DA						
	DB						
	DC						
	DD						
	DE						
OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)							
	DF	Kim, I.S. et al, "Coherence Collapsed 1.3-M Multimode Laser Diode for the Fiber-Optic Gyroscope" (April 1995) Optics Letters Optical Society of Am Washington, Vol 20, No. 7, pp 731-733					
	DG	Wang, J.S. et al, Reduction of the Degree of Polarization of a Laser Diode with a Fiber Lyot Depolarizer", (November 1999) IEEE Photonics Technology Letters Vol. 11, pp 1449-1451					
	DH						
	DI					<input type="checkbox"/> Additional References sheet(s) attached	
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